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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,773	11/11/2003	Shinichi Nakamura	9319H-000587	4378
27572	7590	09/27/2005	EXAMINER	
HARNESSE, DICKEY & PIERCE, P.L.C.			KIM, CHRISTOPHER S	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
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DATE MAILED: 09/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/705,773	Applicant(s) NAKAMURA ET AL.	
	Examiner Christopher S. Kim	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/4/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The response filed July 11, 2005 is acknowledged.

In light of applicant's argument

Applicant submit that the preamble of Claim 4 does not recite limitations of the claim and is not necessary to give life, meaning, and vitality to the claim. Therefore, the preamble of Claim 4 should not be read into the body of the claim.

on page 9 of the response filed July 11, 2005, the recitation in the preamble of claim 4, "...for sucking a function liquid droplet ejection head in which a cap is brought into close contact with the function liquid droplet ejection head having a plurality of nozzles, said head ejecting a functional liquid, said sucking being made through the cap..." has been considered to merely recite the intended use of the apparatus. It does not constitute a positive limitation. Furthermore, the functional recitation "...which sucks all of said nozzles of the function liquid droplet ejection head in a state of being in fluid-flow communication with the cap..." merely requires the ability to so perform. It does not constitute a positively recited limitation.

In claim 13, the recitation "...for a function liquid droplet ejection head in which a cap is brought into close contact with the function liquid droplet ejection head which ejects a function liquid and suction provided through the cap..." has been considered to merely recite the intended use of the apparatus. It does not constitute a positive limitation. Furthermore, the functional recitation "...that sucks all of said nozzles of the

function liquid droplet ejection head in a state of being in fluid-flow communication with the cap..." merely requires the ability to so perform. It does not constitute a positively recited limitation. Likewise, the functional recitation "function liquid droplet ejection heads eject a function liquid onto a workpiece" does not constitute a positively recited limitation.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "ejector is interposed near the cap" recited in claim 5; the "suction pipeline gate valve is made of a three-way valve having an atmosphere releasing port" recited in claim 9; the "first control means opens the atmosphere releasing port simultaneously with closing of the suction pipeline gate valve and opens the flow rate regulating valve again" recited in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. The preamble of claims 14-16 is inconsistent with the parent claim. The claims should be presented in independent form.

Claim Rejections - 35 USC § 112

5. Claims 4-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Applicant argues that the preamble of claim 4 should not be read into the body of the claim but dependent claims recite relationships to the elements recited in the preamble. For example, the preamble of claim 4 recites "a cap" and claim 5 recites "the ejector is interposed near the cap." Claim 6 recites "pressure detection means for detecting a pressure in a suction pipeline connecting the cap to a suction port of the ejector." The metes and bounds of the claims cannot be determined.

Claim 4 recites the limitation "a cap" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "a cap" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "all nozzles" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites "in accordance with the plurality of function liquid droplet ejection heads." It is uncertain what standard is being defined by the recitation "in accordance with..."

Claim 12 recites "a plurality of function liquid droplet ejection heads." It appears to be a double inclusion of the "function liquid droplet ejection head" recited in claim 1. For example, it is uncertain whether claim 12 requires at least two function liquid droplet ejection heads or at least three function liquid droplet ejection heads.

Claim 13 recites "function liquid droplet ejection heads" in line 4. It is uncertain whether the recitation should be considered a double inclusion of the "function liquid droplet ejection head" recited in line 2.

Claims 14-16 recite "using the liquid droplet ejection apparatus" but fail to recite use steps. The metes and bounds of the claims cannot be determined.

Claim Rejections - 35 USC § 102

6. Claims 4-7, 10, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallace (4,362,572).

Wallace discloses an apparatus comprising: a cap 20; an ejector 14, 18; function liquid droplet ejection head 10; nozzles 28; working fluid supply means 44, 50; a pressure detection means 42; a flow rate regulating valve 44, 74; first control means 64; a suction pipeline gate valve 46; a storage tank 40.

7. Claims 4, 5, 10, 11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (4,296,418).

Yamazaki discloses an apparatus comprising: a cap 28; an ejector 38; function liquid droplet ejection head 14; working fluid supply means 31; a storage tank 34; a circulating pipeline gate valve 33; second control means 27.

Claim Rejections - 35 USC § 103

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace (4,362,572).

With respect to claim 8, Wallace discloses the limitations of the claimed invention with the exception of the first control means 64 closing the suction pipeline gate valve 46. It would have been obvious to a person having ordinary skill in the art at the time of

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the invention to have controlled the suction pipeline valve 46 with the first control means (microprocessor) 64 in the device of Wallace for automation.

With respect to claim 9, Wallace discloses the limitations of the claimed invention with the exception of the suction pipeline gate valve being made of a three way valve. Three way valves are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the valve 64 of Wallace a three way valve to vent the device.

9. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace (4,362,572) or Yamazaki et al. (4,296,418).

Wallace or Yamazaki discloses the limitations of the claimed invention with the exception of the plurality of function liquid droplet ejection heads. Providing a plurality of function liquid droplet ejection heads is a mere duplication of parts. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a plurality of function liquid droplet ejection heads to increase the spray pattern, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Response to Arguments

10. Applicant's arguments filed July 11, 2005 have been fully considered but they are not persuasive.

Applicant argues that figure 8 shows “an ejector is interposed near the cap.” Figure 8 is a schematic. A schematic does not usually disclose spatial relationships. It is merely a diagram of how the elements are connected.

Applicant argues that a generic valve 123 encompasses a three way valve. Applicant is absolutely correct but a generic valve 123 does not show a three way valve.

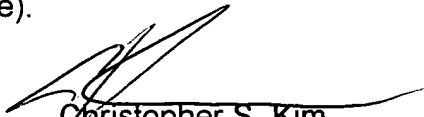
Applicant’s arguments directed to the art rejections are moot in view of applicant’s arguments directed to the rejections under 35 U.S.C. 112, second paragraph. If the preamble is not read into the body of the claim, i.e. it does not constitute a positively recited limitation, the prior art merely requires the ability to so perform. In this case, the prior art not only has the capability but performs the functional recitation “ejector which sucks all of said nozzles.” Wallace discloses an ejector 14 which sucks all of the nozzles 28.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher S. Kim
Primary Examiner
Art Unit 3752

CK